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United States Steel Corporation – Gary Works
One North Broadway, MS 70-A
GARY, IN 46402

VIA CERTIFIED MAIL

April 17, 2017

David Greinke
Office of Water Quality
Indiana Department of Environmental Management
100 North Senate Avenue – Post Office Box 6015
Indianapolis, IN 46206

Subject: United States Steel Corporation Gary Works – Midwest Plant
NPDES Permit IN0000337
Total Chromium and Hexavalent Chromium exceedances Outfall 304 and
Discoloration of Burns Waterway from Outfall 004

Dear Mr. Greinke

This letter is intended as an update to the five-day letter that was submitted on April 15, 2017 regarding a discoloration on Burns Waterway and total chromium and hexavalent chromium incident that occurred on April 11, 2017, at the United States Steel Corporation ("U. S. Steel") Gary Works – Midwest Plant ("Midwest") at outfall 304 (NPDES Permit IN0000337 effective April 1, 2016) and is based upon information available to U. S. Steel at this time. As previously reported, this incident involved the failure of an expansion joint.

Once repairs were made, U. S. Steel began a controlled, phased and highly monitored restart of its operations on April 14, 2017. The process began with a line-by-line restart of operations that do not use chromium in their processes. U. S. Steel took samples from the outfalls every two hours throughout that startup. All sample results showed that the outfalls were in compliance. On April 17, 2017, the process lines that contain chromium were started up in the same controlled, phased and highly monitored manner. U. S. Steel and participating government agencies have continued the vigorous visual inspections and water quality monitoring at the outfall and in the areas surrounding the outfall.

Going forward, U. S. Steel and participating government agencies will continue to monitor water at and around the outfall. Once all lines are operating, U. S. Steel will continue to sample the facility every two hours for an additional 24 hours. If all sample results are within compliance with permit limits, then the following sampling protocol will be followed throughout the Month of April:

- Daily grab sampling at Outfalls 104 and 204 for hexavalent chromium
- Daily 24 hour composite sampling at Outfalls 104 and 204 for total chromium

Based on the results of the NPDES 24 hour composite samples taken during the event, approximately 346 lbs. of total chromium were discharged through Outfall 004 via Bubble Outfall 304 between April 11, 2017 and April 12, 2017. Based on the information we have to date, of the 346 lbs. of total chromium released, approximately 298 lbs. were comprised of hexavalent chromium.

U. S. Steel requests that this submittal be afforded confidential treatment under all applicable statutes.

If you have any questions about this matter, please call me at (219) 888-4500 or email me at JEHanning@uss.com.

Sincerely,

Joseph E. Hanning

Joseph E. Hanning, PE
Director – Environmental Control
United States Steel Corporation
Gary Works, Midwest Plant, East Chicago Tin

CC: Nicole Gardner (electronic)
Indiana Department of Environmental Management
Office of Water Quality
NPDES Permits Section
100 North Senate Avenue
Indianapolis, IN 46204-2251

N. Ream – IDEM Northwest Regional Office
D. Smiga – U. S. Steel
M. Henry – U. S. Steel
E. Williams – U. S. Steel
R. Casselberry – U. S. Steel

United States Steel Corporation – Gary Works
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GARY, IN 46402

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David Greinke
Office of Water Quality
Indiana Department of Environmental Management
100 North Senate Avenue – Post Office Box 6015
Indianapolis, IN 46206

Subject: United States Steel Corporation Gary Works – Midwest Plant
NPDES Permit IN0000337
Total Chromium Exceedances Outfall 304 and Discoloration of Burns Waterway from Outfall 004

Dear Mr. Greinke

This letter is the written five-day submission regarding a discoloration on Burns Waterway and total chrome incident beginning on April 11, 2017, at the U. S. Steel Corporation Gary Works – Midwest Plant ("Midwest") at outfall 304 (NPDES Permit IN0000337 effective April 1, 2016) and is based upon information available at this time.

A discoloration at the Midwest discharge was noted on April 11, 2017 and reported by telephone to the National Response Center, IDEM, the Coast Guard, and the LEPC starting at 9:30 AM. Based on the discoloration, the facility began to shut down operations.

An investigation revealed that an expansion joint in a pipe carrying chromium containing wastewater to the Chrome Treatment Plant had broken and the chromium wastewater had entered the facility's North Final Treatment plant and was subsequently discharged to Burn's Waterway. Samples are being analyzed and reviewed to determine the amount of hexavalent chrome and total chromium. These results will be supplied upon receipt.

The following response actions were taken:

1. Operations at the facility were shut down, except for water systems necessary for fire protection and non-contact cooling waters.
2. The broken expansion joint was repaired and pressure tested successfully.
3. A wastewater treatment additive (ChemTreat P8005L) was added to the final wastewater treatment facility to reduce any hexavalent chromium present.
4. Samples in and around Burn's Waterway and Lake Michigan were collected and analyzed.
5. Visual inspections of the equipment and the outfall are being conducted.

U. S. Steel is currently implementing a controlled restart of the shutdown facilities. A controlled restart of operations at the Midwest Plant at this time will allow U. S. Steel and participating government agencies to conduct robust water and soil sampling while Indiana American Water's intake remains closed and access to certain parks and beaches remains restricted.

U. S. Steel began the controlled, phased and highly monitored restart yesterday. The process began with a line-by-line restart of operations that do not use chromium in their processes. U. S. Steel will be taking samples from the facility every two hours. U. S. Steel and participating government agencies will also be conducting vigorous visual inspections and water quality monitoring at the outfall and in the areas surrounding the outfall. If elevated levels of chromium are detected, all operations will be immediately shutdown. If all non-chromium-involved lines restart successfully and sampling is acceptable, the lines that involve chromium would be restarted in the same controlled, phased, and highly monitored manner.

Going forward, U. S. Steel and participating government agencies will continue to monitor water at and around the outfall.

U. S. Steel requests that this submittal be afforded confidential treatment under all applicable statutes.

If you have any questions about this matter, please call me at (219) 888-4500 or email me at JEHanning@uss.com.

Sincerely,

Joseph E. Hanning

Joseph Hanning
Environmental Compliance
United States Steel Corporation
Gary Works, Midwest Plant, East Chicago Tin

CC: Nicole Gardner (electronic)
Indiana Department of Environmental Management
Office of Water Quality
NPDES Permits Section
100 North Senate Avenue
Indianapolis, IN 46204-2251

N. Ream – IDEM Northwest Regional Office
D. Smiga – U. S. Steel
M. Henry – U. S. Steel
E. Williams – U. S. Steel
R. Casselberry – U. S. Steel

Maraldo, Dean

From: Ream, Nicholas <NREAM@idem.IN.gov>
Sent: Wednesday, May 10, 2017 3:30 PM
To: Maraldo, Dean
Subject: RE: USS
Attachments: Response from 12-12-13.pdf

Attached is the Violation Response Letter from US Steel Midwest regarding the discolored water from 2013.

The two following links are to the two inspection reports in our Virtual File Cabinet

https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=4496240&dDocName=69475300&Rendition=web&allowInterrupt=1&noSaveAs=1&fileName=69475300.pdf
https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=4226488&dDocName=66907111&Rendition=web&allowInterrupt=1&noSaveAs=1&fileName=66907111.pdf

The following link is to US Steel reporting the discoloration to IDEM after it was found during the inspection.

https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=80101186&dDocName=80101392&Rendition=web&allowInterrupt=1&noSaveAs=1&fileName=80101392.pdf

If there is anything else I can help with, please let me know.

Nick

From: Maraldo, Dean [mailto:Maraldo.Dean@epa.gov]
Sent: Wednesday, May 10, 2017 3:20 PM
To: Ream, Nicholas <NREAM@idem.IN.gov>
Subject: USS

Nick: I noticed in ICIS that IDEM issued notices of noncompliance to USS on 12/12/2013 and 9/26/2012. Can you provide copies of the notices or let me know what violations were involved? Thanks.

- Dean

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Dean Maraldo
Water Enforcement & Compliance Assurance Branch
U.S. EPA - Region 5
77 West Jackson Blvd. (WC-15J)
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fax: (312) 385-5394
e-mail: maraldo.dean@epa.gov
http://www.epa.gov/enforcement/

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United States Steel Corporation – Gary Works
One North Broadway, MS 70-A
Gary, IN 46402

IDEM
OFFICE OF
WATER QUALITY

2014 FEB 18 A 11:01

CERTIFIED MAIL

February 13, 2014

Donald Daily
Indiana Department of Environmental Management
Office of Water Quality
Mail Code 65-42
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

RE: Inspection Summary/Violation Letter Response
United States Steel Corporation – Midwest Plant
NPDES Permit Number IN000037

Dear Mr. Daily:

This letter is in response to the written Inspection Summary/Violation Letter (Letter) that was issued by the Indiana Department of Environmental Management (IDEM) on January 16, 2014 and received by the United States Steel Corporation – Midwest Plant (U. S. Steel) on January 22, 2014. Please note that while U. S. Steel is providing this response in good faith, this response is not intended to be an admission or indicate culpability on behalf of U. S. Steel.

The Letter was issued to U. S. Steel subsequent to a compliance evaluation inspection of the Midwest Plant on December 12, 2013. The Letter stated the following:

1. A white discoloration was observed to be entering Burns Waterway from Outfall 004, which is a violation of Part I. B. of the facility's NPDES permit. As a result, the Receiving Waters Appearance and Effluent Appearance evaluation area was rated as "unsatisfactory;"
2. Operations and Maintenance of the facilities and systems that are necessary for achieving compliance with the terms and conditions of the NPDES was rated as "marginal" due to the east Dissolved Air Flotation (DAF) Unit being off-line for repairs during the compliance evaluation; and
3. The Effluent Limits Compliance evaluation area was rated as "marginal" due to a self-reported violation of the limits detailed in Part I. A. of the NPDES permit.

Receiving Waters and Effluent Appearance

The following was summarized in a letter to IDEM that was submitted on December 17, 2013. The white discoloration that was observed was a result of an upset condition that occurred from the caustic cleaner system on the Continuous Annealing line. The caustic cleaner entered the wastewater treatment system at a rate greater than normal resulting in the white discoloration that was observed at Outfall 004. The discoloration was corrected on the same day that it was discovered.

In order to prevent a recurrence, the caustic cleaner discharge point at the Midwest Plant Continuous Annealing line is being retrofitted with a metering device to restrict the rate of discharge. Until the discharge line is retrofitted, caustic cleaner will not be discharged to the wastewater treatment system

from the Continuous Annealing line. Wastewater discharge sampling that was conducted during the timeframe in which the discoloration was occurring showed that no parameters exceeded NPDES permit limits for Outfall 004.

Operations and Maintenance

On the date of the compliance evaluation inspection, the east DAF unit, which is used primarily to treat for Oil and Grease (O&G) was off-line for engineering improvements. As a result, the IDEM's Inspector rated the facility's Operation and Maintenance as "marginal." U. S. Steel respectfully disagrees with the Inspector's opinion in this instance.

In the Operations Section of the NPDES Industrial Facility Inspection Report, the facility was rated as "marginal" for ensuring that "all facilities and systems necessary for achieving compliance with the terms and conditions of the permit are operating efficiently." It should be noted that, while the east DAF unit was off-line, wastewater was routed through a second DAF unit, which was engineered to singularly manage the facility's wastewater flows. The discoloration observed at Outfall 004 was in no way related to the east DAF unit's operational status on the day of the compliance evaluation inspection. At no time was wastewater being ineffectively treated or bypassing treatment.

During the timeframe in which the east DAF unit was off-line for upgrading, the maximum concentration of O&G at Outfall 004 was 3.2 mg/L. The maximum loading of O&G at Outfall 004 was 266 lbs/day, which is only 34.8% of the NPDES permit limit (765 lbs/day). Furthermore, discharge sampling during the time when the east DAF unit was off-line confirmed that no NPDES permit limits of any kind were exceeded at Outfall 304, indicating that the facility was operating all of the necessary facilities to properly treat the wastewater and ensure compliance with the terms and conditions of the NPDES permit. Therefore, the "marginal" rating should be revised to "satisfactory" in order to accurately reflect the status of the facility's wastewater treatment system.

In the Maintenance Section of the NPDES Industrial Facility Inspection Report, the facility was rated as "marginal" indicating that "facility maintenance activities" may not be adequate. The facility's maintenance activities and procedures are adequate, as they identified an opportunity to improve the system. On the day of the inspection, U. S. Steel personnel were in the process of retrofitting the east DAF unit with more robust mechanical equipment in order to minimize the need for on-going future maintenance. Taking the unit off-line for upgrades while maintaining adequate wastewater treatment is appropriate and consistent with good preventative maintenance practices, and the status of the maintenance activities should be revised to "satisfactory."

It should be noted that the upgrades to the east DAF unit have been completed, and both DAF units are in full operation.

Effluent Limits Compliance

The following was summarized in a letter to IDEM that was submitted on February 8, 2013. Internal Outfall 304 is the mathematically combined discharge of Internal Outfall 204 (Chrome Treatment) and Internal Outfall 104 (Final Treatment Plant). Internal Outfall 304 ultimately discharges to Burns Waterway through Outfall 004. On February 3, 2013, a treatment plant process control pH excursion occurred on one of the two process water treatment trains at the Chrome Treatment Plant. The pH excursion allowed soluble chromium to pass through to the discharge of Internal Outfall 204 and subsequently to Internal Outfall 304. At the time, the process control configuration would not have

triggered an alert at the final pH adjustment tank in which both treatment trains combine prior to discharge.

In order to prevent a recurrence, U. S. Steel equipped each treatment train with automated process controls upstream from where the treatment trains combine at the final pH adjustment tank prior to discharge. Accordingly, U. S. Steel revised its internal procedures, and the associated corrective action guidance, to reflect the new automated process controls.

Environmental Stewardship is a core value at U. S. Steel. As part of this value, we strive to have clear communication with all regulatory agencies. U. S. Steel respectfully requests a response from IDEM regarding our concerns with the "marginal" ratings for Operations and Maintenance in the NPDES Industrial Facility Inspection Report. Please call me at 219-888-3369 or e-mail me at LELegler@uss.com if you need additional information.

Sincerely,

Lauren Legler

Lauren Legler
Manager, Environmental Control
United States Steel Corporation
Gary Works, Midwest Plant, East Chicago Tin Operations

cc: J. Hanning – U. S. Steel
E. Williams – U. S. Steel
L. Zemba – U. S. Steel
F. Monteleone – U. S. Steel

4

Maraldo, Dean

From: Brandon S Miller <BSMiller@uss.com>
Sent: Monday, May 08, 2017 2:25 PM
To: Maraldo, Dean
Cc: Eric Williams; Joseph E Hanning; Mark Henry; Nicole H Benoit; nream@idem.in.gov
Subject: Re: [External]-RE: U.S. Steel NPDES Sampling

Yes it will all be included

Thanks,

Brandon S. Miller
Environmental Control
US Steel - Gary Works, Midwest, ECT
Cell: 2196881151

From: "Maraldo, Dean" <Maraldo.Dean@epa.gov>
To: Brandon S Miller <BSMiller@uss.com>, "nream@idem.in.gov" <nream@idem.in.gov>,
Cc: Joseph E Hanning <JEHanning@uss.com>, Eric Williams <ewilliams@uss.com>, Mark Henry <MHenry@uss.com>, Nicole H Benoit <nhbenoit@uss.com>
Date: 05/08/2017 01:37 PM
Subject: [External]-RE: U.S. Steel NPDES Sampling

Thanks for the update Brandon. Will you be submitting the results of additional samples collected in April as part of your DMR submittal for April?

- Dean

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Dean Maraldo
Water Enforcement & Compliance Assurance Branch
U.S. EPA - Region 5
77 West Jackson Blvd. (WC-15J)
Chicago, Illinois 60604
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fax: (312) 385-5394
e-mail: maraldo.dean@epa.gov
http://www.epa.gov/enforcement/

From: Brandon S Miller [mailto:BSMiller@uss.com]
Sent: Monday, May 08, 2017 12:29 PM
To: nream@idem.in.gov; Maraldo, Dean <Maraldo.Dean@epa.gov>
Cc: Joseph E Hanning <JEHanning@uss.com>; Eric Williams <ewilliams@uss.com>; Mark Henry <MHenry@uss.com>; Nicole H Benoit <nhbenoit@uss.com>
Subject: U.S. Steel NPDES Sampling

Nick, Dean -

After today, May 8th 2017, U. S. Steel will be returning to the NPDES Permit required sampling frequencies for total chromium and hexavalent chromium at internal outfalls 104 and 204. These frequencies are 1x per week for hexavalent chromium, and 5x per week for total chromium. If you have any concerns feel free to contact me.

Thank you,

Brandon S. Miller
Environmental Control
US Steel - Gary Works, Midwest, ECT
Cell: 2196881151

4

Maraldo, Dean

From: Maraldo, Dean
Sent: Thursday, May 04, 2017 9:28 AM
To: 'Mark Henry'
Subject: RE: US Steel Midwest - photo that you requested

Thanks for the photos.

- Dean

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Dean Maraldo
Water Enforcement & Compliance Assurance Branch
U.S. EPA - Region 5
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Chicago, Illinois 60604
ph: (312) 353-2098
fax: (312) 385-5394
e-mail: maraldo.dean@epa.gov
http://www.epa.gov/enforcement/

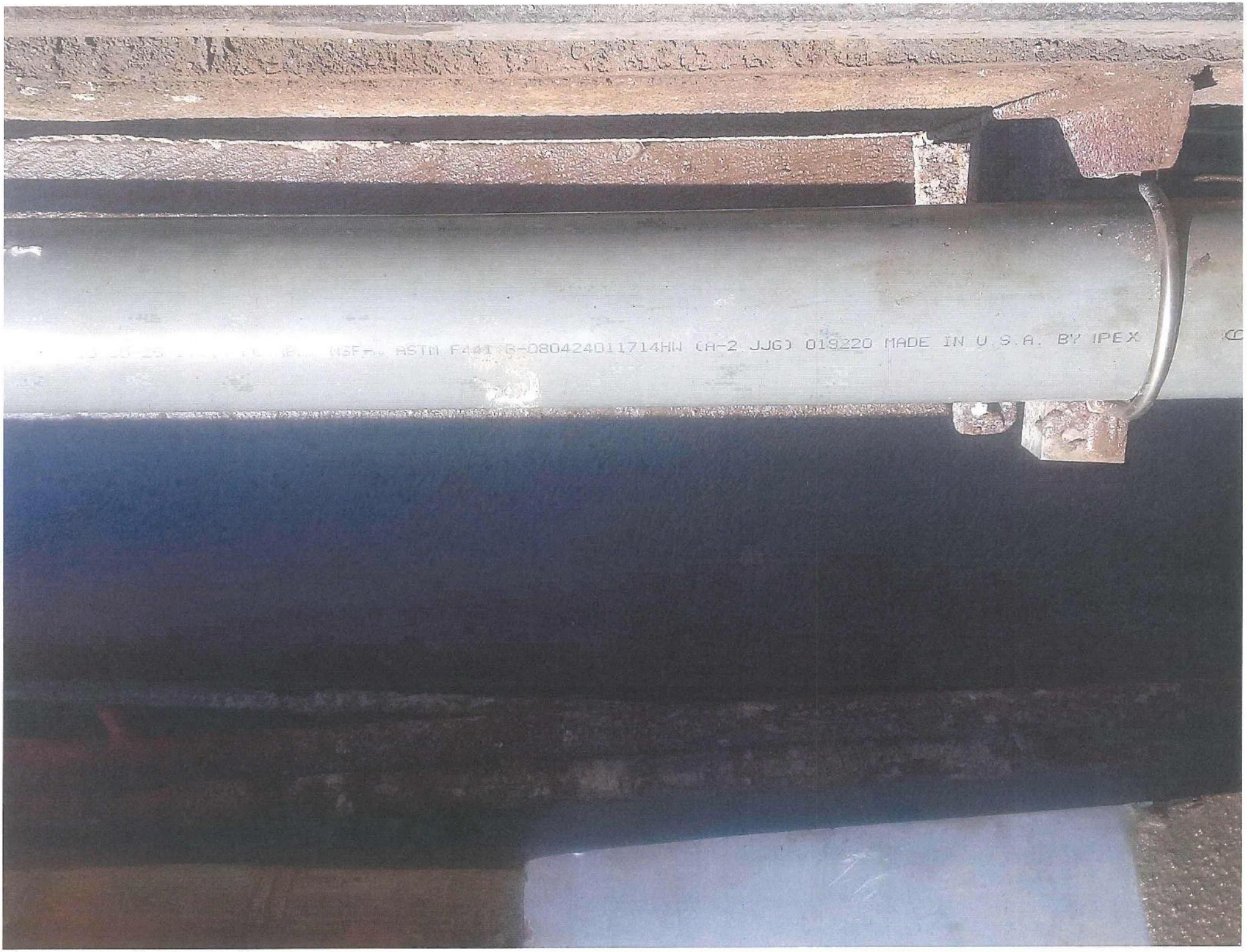
From: Mark Henry [mailto:MHenry@uss.com]
Sent: Thursday, May 04, 2017 9:18 AM
To: Maraldo, Dean <Maraldo.Dean@epa.gov>
Subject: US Steel Midwest - photo that you requested

Dean, This photo is of the repaired trench floor - the failed pipe transitioned this floor @ 90 deg. The pipe was sealed & this epoxy floor sealed the trench.

Maraldo, Dean

From: Mark Henry <MHenry@uss.com>
Sent: Thursday, May 04, 2017 9:18 AM
To: Maraldo, Dean
Subject: US Steel Midwest - photo that you requested
Attachments: IMG_20170412_110210.jpg

Dean, This photo is of the repaired trench floor - the failed pipe transitioned this floor @ 90 deg. The pipe was sealed & this epoxy floor sealed the trench.


ASTM F441
MADE IN U.S.A. BY IPEX

4

Maraldo, Dean

From: Mark Henry <MHenry@uss.com>
Sent: Thursday, May 04, 2017 9:15 AM
To: Maraldo, Dean
Subject: US Steel Midwest photo you requested
Attachments: IMG_20170503_101224.jpg

Dean - This photo is of the replaced expansion joint.

4

Maraldo, Dean

From: Mark Henry <MHenry@uss.com>
Sent: Thursday, April 27, 2017 3:38 PM
To: Maraldo, Dean
Subject: Re: [External]-U.S. Steel Chromium Incident Photos

Dean - Yes, pictures were taken by me the morning of 4/11. The flow had been stopped at that time but the expansion join was still dripping & some material was still entering the pipe. A sand dam was placed soon after this photo. I'll send photos of the repairs Monday.

Mark

From: "Maraldo, Dean" <Maraldo.Dean@epa.gov>
To: "mhenry@uss.com" <mhenry@uss.com>, "jehanning@uss.com" <jehanning@uss.com>
Date: 04/27/2017 11:47 AM
Subject: [External]-U.S. Steel Chromium Incident Photos

Mark/Joe: Thanks again for your time last Thursday. There are two photos (attached) that Andy received from you on April 12. I just want to confirm the date the photos were taken and make sure I understand what the photos capture.

Photo "1.jpg" appears to capture the leaking expansion joint. Assume it was taken on April 11. Could you please confirm?

Photo "2.jpg" appears to capture the breach in the bottom of the trench and leaked wastewater flowing into the pipeline beneath. Assume it was taken on April 11. Could you please confirm?

If you have a photo of the repaired expansion joint that would be helpful for the report.

Thanks,
Dean

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Dean Maraldo
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e-mail: maraldo.dean@epa.gov
http://www.epa.gov/enforcement/

[attachment "1.jpg" deleted by Mark Henry/GaryWorks/USS] [attachment "2.jpg" deleted by Mark Henry/GaryWorks/USS]

4

Maraldo, Dean

From: Maraldo, Dean
Sent: Thursday, April 27, 2017 11:46 AM
To: 'mhenry@uss.com'; 'jehanning@uss.com'
Subject: U.S. Steel Chromium Incident Photos
Attachments: 1.jpg; 2.jpg

Mark/Joe: Thanks again for your time last Thursday. There are two photos (attached) that Andy received from you on April 12. I just want to confirm the date the photos were taken and make sure I understand what the photos capture.

Photo "1.jpg" appears to capture the leaking expansion joint. Assume it was taken on April 11. Could you please confirm?

Photo "2.jpg" appears to capture the breach in the bottom of the trench and leaked wastewater flowing into the pipeline beneath. Assume it was taken on April 11. Could you please confirm?

If you have a photo of the repaired expansion joint that would be helpful for the report.

Thanks,
Dean

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02:2M FS10 SD-25 19914 ROTABLE NSF-w ASTM F441 B-08042401171414H (H-2 JJG) 015220 MADE IN U.S.A. B/ IPEX